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Eastern States Farmers' Exchange  
Descriptive List No. 1  
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# Spring Seedlings

For the Arsenal of Foodstuffs





Wherever Our Fighters Go  
... There May Go Some of  
The Fighting Power of Food  
You Produce ...



## SPRING GRAINS

Eastern States grains adapted for spring and summer seeding are Lenroc Oats, Upright Oats, Gopher Oats, Richland Oats, Selected Oats, Wisconsin #38 Barley, Selected Spring Barley, Rival Spring Wheat, Japanese Buckwheat and Selected Buckwheat.

### OATS

Oats are a cool season, annual cereal with a wide adaptation to soil. They are grown for grain, hay, pasture, green manure and as a nurse crop for new grass and legume seedings. They are the third most important cereal crop in the northeastern states, being exceeded only by corn and wheat.

There is a great need for use of better seed oats to avoid unadapted types, disease, noxious weeds, inert matter, uneven size, low vitality and resulting low yields.

## Varieties Selected By Eastern States

**Lenroc** variety was introduced by Cornell University in 1935, following 11 years of testing for yield, stiffness of straw and other desirable qualities during which time it outyielded all other varieties tested with an average yield of 62.1 bushels per acre. It has spreading (tree-type) panicles, moderately tall straw and is midseason in maturity ripening about four days earlier than Victory or other Swedish type oats. The kernels are large, plump and white with moderately heavy hulls, but with a high percentage of meat and attractive in appearance.

**Upright**, a vigorous-growing tree-type variety, as tall as Lenroc, is especially noted for its strength of straw and resistance to lodging. It is adapted to rich soils, lowlands or fields of high moisture content. The straw is coarser, several days to a week later in maturity; the grain is large, bright and attractive, but higher in fiber content and lower in feeding value and productiveness than Lenroc. It should only be grown on the most fertile soils where lodging is likely to occur, and especially in Vermont where it has been found superior to other varieties.

**Gopher** is an early, short, stiff strawed variety of excellent yielding ability, particularly in fertile fields of the southern areas where a midseason to late maturing oat is unadapted because of hot weather prior to harvest, or in the extreme northern areas where early maturity is an advantage by permitting ample time to harvest before potato digging starts. It seldom lodges even on rich potato soils. The grain is plump, bright, attractive and of good weight per bushel. (This varies with the season and growing conditions.)

**Richland** is an early maturing variety, very resistant to most of the important races of stem rust of oats. Its short stiff straw makes it resistant to lodging on low fertile soils for which it is especially adapted. If planted on poor land, the growth of straw may be so short as to make harvesting difficult; hence, it is known as "Richland" oats.

The slender yellow grain is of good size and of moderate fiber content. Tests at the Pennsylvania State College over a five-year period indicate that *on fertile soil* Richland is nearly equal to Lenroc in grain production and a week or 10 days earlier in maturity.

Richland is recommended primarily as a special purpose variety where one or several of the following situations occur:

- 1 — In areas where stem rust is generally serious and occasionally becomes epidemic, soils should be fertile and retentive of moisture to encourage satisfactory length of straw.
- 2 — On soils so rich in plant nutrients and moisture that lodging causes heavy losses.

- 3 — On rich land where a short-stawed early oat as a nurse crop is an important consideration.
- 4 — On rich land where early maturity is helpful in the distribution of labor with other crops grown.

**Beaver** is a smut resistant variety developed and released in 1943 by the Pennsylvania State College. Its season, habit of growth, and yielding ability are reported to be similar to those of Lenroc. Eastern States has obtained 50 bushels of stock seed of this variety, from which will be produced during 1943 seed for distribution to members in 1944.

**Selected Oats,** “treated” or “natural” — (optional with member) are recommended especially for forage production (pasture, hay, green feed or cover crop), because of their vigorous growth and leafiness. They are selected during the fall and winter in carlot units out of receipts of hundreds of cars of feeding oats at the Eastern States mill on the basis of appearance, germination and general type as determined by region of origin. While recommended primarily for forage production, many members have used them with splendid success in grain production. When so used, the “treated” seed should be used to reduce occurrence of smut. For forage production, treatment is not needed so “natural” seed should be used.



They are preferred to ordinary homegrown seed or feed oats offered as "Suitable for Seeding" because selected oats are:

- 1 — Adapted to both environment and usage.
- 2 — Thoroughly cleaned to avoid weed contamination.
- 3 — Carefully graded to uniform size.
- 4 — Tested to assure strong vitality.
- 5 — Treated (when requested) for the control of smut.
- 6 — Produced, refined and distributed economically.

	<b>Lenroc</b>	<b>Upright</b>	<b>Gopher</b>	<b>Richland</b>
Season	Midseason	Midseason	Early	Early
Straw Length	Tall	Tall	Short	Short
Res't. to Lodging	Good	Very Good	Excellent	Very Good
Kernel Color	White	White	White	Yellow
Kernel Size	Large	Large	Plump	Slender
Kernel Fiber	Low	Med. High	Medium	Medium
Yield	Best	Fair	High	High

### **Other Oat Varieties**

Pennsylvania has found Patterson and Keystone nearly equal to Lenroc. Michigan has introduced Markton as resistant to smut, but it has weak straw and is only adapted to the poorer lighter soils. Maine 340 is an excellent variety similar to Wolverine or Worthy of the Swedish type in performance and character. The side or horse-main type is deceptive in appearance, being decidedly unproductive, late, coarse in straw with large, thick hulled seed, yielding 10 to 20 bushels less per acre than Lenroc — this includes Storm King, Mammoth Cluster, Tartar King, etc., all of which are low in feeding value. Hull-less varieties as "Shadeland Hull-less" are difficult to store. Even though hull-less, they produce 20 percent less food nutrients per acre than Lenroc.

### **Eastern States Seed Sources**

Variety named oats are produced on contract from stock seed supplied or approved by the Eastern States Farmers' Exchange. Such stock seed is often obtained each year from the original source of that variety. All variety named oats are treated with an organic mercury dust for the control of smut. Selected oats are selected on the basis of adaptation and vegetative growth in Eastern States territory. They are tested for germination and recleaned for high purity.

### **SPRING WHEAT**

Where winter wheat successfully survives the winter it is generally more productive than spring wheat, but in areas when winter wheat does not survive the winter or when a fall seeding was not



accomplished, the use of spring wheat may be in order. Like oats it thrives best in cool weather, so early spring planting is imperative for best results.

### **Eastern States Variety**

The Eastern States variety of spring wheat for distribution in 1943 is Rival. It is a bearded, hard red wheat, somewhat resistant to stem and leaf rusts and to closed and stinking smut. The grain is of good milling quality. It was introduced by the North Dakota Experiment Station in 1939 from a cross of Ceres x Hope-Florence. It is high yielding, medium early, tall and not very resistant to lodging when growth is rank. It may have a tendency to shatter some years as it reaches full maturity.

### **SPRING BARLEY**

Barley is grown in some areas for malt but mostly in Eastern States area for feed. Under suitable conditions it yields 20 to 30 percent more pounds per acre than wheat or oats. In feeding value it is about equal to other grains which it can replace in part at least in livestock rations. It is best cracked or rolled, not fed whole because of its hard flinty grain, nor fed finely ground unless in a mixture which would overcome its pasty tendencies when moistened.



It is equal to corn in feeding value for young stock, although corn is superior for fattening. Barley is more easily digested than oats by swine and poultry because of lower fiber content. It may also be used for late fall pasture. Spring barley for hay should be combined with field peas or vetch.

Barley is a better companion crop with legume and grass seedings than wheat or oats for grain as it is harvested earlier and competes less for soil moisture than oats. It thrives best in a cool humid climate, but will stand heat better than oats. It is more sensitive to soil variations and nutritive deficiencies than oats or wheat and demands a well-drained soil, but does not thrive on sand.

### **Eastern States Varieties**

The Eastern States Farmers' Exchange distributes Wisconsin #38 and Selected Spring Barley.

Wisconsin #38 has strong, stiff, tall straw and white kernels in six row heads. It is a heavy grain yielder and somewhat resistant to smut. The smooth beards break off readily in threshing, leaving a clean, attractive grain suitable for feed or malt.

Eastern States seed is treated with an organic mercury dust for the control of seed-borne diseases.

### **CULTURAL SUGGESTIONS FOR SPRING GRAINS**

First choose the kind and variety best suited to your conditions of soil, climate and intended use. (Read descriptions of varieties available.)

Plan to plant early in the spring to avoid as much hot, dry weather as possible.

Prepare a firm well-settled seedbed with 2 or 3 inches of loose mellow soil on the surface. This can be done by early spring discing only if soil is free from weeds, or by fall plowing and early spring discing or by very early, shallow spring plowing followed by the use of cultipacker, roller, and disc or spring tooth harrow. Late, deep spring plowing does not make for a desirable seedbed for spring grains.

Be sure seed is evenly sized, free from weed seeds and inert matter, of high germination and vitality and treated for control of smut if planted for the production of grain.

Drilling is the best method of sowing. The best depth of planting depends on the nature of the soil and its moisture content. With abundant moisture on heavier types of soil 1 to 1½ inches is sufficient. On lighter soils which lose their moisture easily 1½ to 2½ inches may not be too deep.

Rate of seeding may vary from 50 to 100 pounds per acre — more in Maine and other New England states than farther south — more for hay, pasture or green manure crop than for grain production — more when sown alone than when as a nurse crop — more on thin, dry soil than on fertile moist soil — and more of large seeded lots than of small seeded lots.

Fertilizer for both the oat crop and the accompanying forage crop (if any), using a mixture high in minerals and relatively low in Nitrogen. Refrain from heavy use of manures.

If lodging is a difficulty, use a variety resistant to this trouble, keep down the rate of seeding, precede the grain crop with a heavy feeding crop such as corn, avoid the use of high nitrogen fertilizers and manures at or recently prior to seeding, and prepare the land by discing rather than by plowing.

Pasture before heads form, mow for hay or silage when heads are in the milk stage, cut with a binder when the grain is in the hard dough stage or with a combine when practically ripe, but before serious shelling has occurred. The degree of injury to the accompanying grass or legume seeding occurs in the same order as these methods of harvesting are listed.

Oats and barley may be sown with field peas for hay or grain production or with hairy vetch for pasturing. So used, about 50 pounds of oats or barley are sown with 75 pounds of peas or 25 pounds of vetch per acre.

Buckwheat on the right fertilized the Eastern States way.



# BUCKWHEAT

## Characteristics

Buckwheat is a quick germinating, short season (10 to 12 weeks) cereal requiring moist, cool conditions but tolerant to acid and quite infertile soil. It can make use of relatively insoluble minerals in the soil and when plowed under, decays quickly, leaving those minerals in a form readily available to other crops. It blossoms over a long period, and flowers in bloom during periods of high temperature are generally blasted so they produce no grain.

Buckwheat is not an important crop in world agriculture nor in the total agriculture of United States, but is important in certain local areas. Pennsylvania and New York each produce about 30 percent of this country's production of 6 to 8 million bushels from 500,000 acres. The general trend in buckwheat acreage has been downward since 1918, in which year more than a million acres were grown.

## Uses

Buckwheat may be grown for grain, as a green manure crop, as a weed destroyer, as a soil renovator or as a honey plant.

## Varieties

Most of the buckwheat grown in the United States is either Japanese or Silverhull.

**Japanese** is generally preferred because it grows taller, and produces a higher yield of both grain and straw. The seed is larger in size, brown in color, and triangular in cross section. It is a little more inclined to lodge.

**Silverhull** has a smaller, glossy, silver-gray seed which is more nearly round than triangular in cross section. The plants are smaller, the stems not so coarse, and the leaves smaller. This variety is not distributed by the Eastern States Farmers' Exchange.

**Selected Buckwheat** is a natural mixture of Japanese and Silverhull varieties, to be used principally as a soil improvement or green manure crop, although some prefer this blend for grain production because the mixture extends the blossoming period.

## Culture

Time of seeding may be calculated at 12 weeks for growth before the average date of the first killing frost in the fall; from June 20 to July 10, depending on local conditions. The later the seeding with assured maturity the better, because more of the blossoming period will come after the hottest summer weather with less blasting of blossoms.

**Soil preparation** — Plow well in advance of seeding to permit settling of the soil and decomposition of organic matter turned under. Work the soil several times to kill weeds and help in firming the soil. Fertilizers are seldom used except on the poorest soils. When soil is very poor or when a heavier crop is desired, fertilize and lime as for other grain crops.

**Seeding** — Sow with a grain drill or broadcast and harrow in, at the rate of 50 to 75 pounds per acre depending on soil conditions and method used. Drilling on well-prepared soil requires less seed.

### USE GOOD SEED

Stop the use of common feeding grains for seed. Many acres are still seeded annually with such seed of badly mixed types, polluted with weed seeds, and inert matter and of unknown germination and vitality. Eastern States seed, true-to-type, thoroughly cleaned, uniformly graded and of known germination and vitality and treated — where needed — for control of seed-borne diseases is far more desirable, safer, more profitable and more economical in the end.



*Food will help win the war and  
write the peace . . .*



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